UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JAN 30 2020

Ms. Julie Espy
Acting Director
Division of Environmental Assessment & Restoration
Florida Department of Environmental Protection
Mail Station 3000
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Ms. Espy:

The U.S. Environmental Protection Agency has completed its review of the document titled *Nutrient TMDL for Blue Spring (Volusia County) and Blue Spring Run (Volusia County), and Documentation in Support of the Development of Site-Specific Numeric Interpretations of the Narrative Nutrient Criterion (WBID[1] 28933 and 28933A)*. The Florida Department of Environmental Protection (FDEP) submitted the Blue Spring and Blue Spring Run Total Maximum Daily Load (TMDL) and revised Chapter 62-304, Florida Administrative Code (F.A.C.),[2] including the numeric nutrient criteria (NNC) for the subject waters, in a letter to the EPA dated December 4, 2019 as TMDLs and as new or revised water quality standards (WQS) with the necessary supporting documentation and certification by FDEP General Counsel, pursuant to Title 40 of the Code of Federal Regulations part 131.

The NNC were adopted under Chapter 62-304.645(15) as site-specific numeric interpretations of paragraph 62-302.530(48)(b). As referenced in paragraph 62-302.531(2)(a), the FDEP intends for the submitted NNC for Blue Spring to serve in place of the otherwise applicable criteria for springs set out in paragraph 62-302.531(2)(b). The nitrate TMDL for Blue Spring Run would also constitute a site-specific interpretation of the narrative nutrient criterion set forth in paragraph 62-302.530(48)(b), for this water segment. The nitrate criterion for Blue Spring Run would be in addition to the otherwise applicable NNC in subsection 62-302.531(2).

The FDEP submitted the Blue Spring and Blue Spring Run TMDLs to the EPA for review pursuant to both Clean Water Act (CWA) sections 303(c) and 303(d) since the TMDLs will also act as Hierarchy 1 (H1) site-specific interpretations of the State's narrative nutrient criterion pursuant to 62-302.531(2)(a)1.a. The enclosed WQS decision document summarizes the EPA's review and approval of the WQS contained in the TMDL document. The EPA's decision document memorializes the EPA's review and approval of the water quality standard, in accordance with 303(c); nothing herein should be construed to constitute a review or approval of the TMDL submitted pursuant to 303(d). The EPA will conduct its review of the TMDL following this approval of the water quality standard.

[1] WBID refers to waterbody identification
[2] Unless otherwise stated, all rule and subsection citations are to provisions in the Florida Administrative Code.

In accordance with section 303(c) of the CWA, I am hereby approving the WQS for nitrate for Blue Spring and Blue Spring Run. Any other criteria applicable to these waterbodies remain in effect, especially those in paragraph 62-302.531(2)(c). The requirements of paragraph 62-302.530(48)(a) also remain applicable.

If you have any comments or questions relating to the approval of the H1 WQS, please contact me at (404) 562-9345, or have a member of your staff contact Dr. Katherine Snyder in the WQS program at (404) 562-9840.

Sincerely,

Jeaneanne M. Gettle, Director
Water Division

Enclosure

cc: Mr. Kenneth Hayman, FDEP
Mr. Daryll Joyner, FDEP
Mr. Ansel Bubel, FDEP

Florida Numeric Interpretation of the Narrative Nutrient Water Quality Criterion Through Total Maximum Daily Loads (TMDLs) to Establish a Hierarchy 1 (H1): Water Quality Standards (WQS) Decision Document

H1: Nutrient TMDL for Blue Spring and Blue Spring Run (waterbody identification (WBID) 28933 and 28933A)

Location: Volusia County, Florida

Status: Final

Criteria Parameter(s):

Blue Spring: 0.35 mg/L nitrate, expressed as monthly average (not to be exceeded);
Blue Spring Run: 0.35 mg/L nitrate, expressed as monthly average (not to be exceeded).

Background: The Florida Department of Environmental Protection (FDEP) submitted the final H1 for the *Nutrient TMDL for Blue Spring (Volusia County) and Blue Spring Run (Volusia County), WBIDs 28933 and 28933A and Documentation in Support of the Development of Site-Specific Numeric Interpretations of the Narrative Nutrient Criterion* (the "report") by letter dated December 4, 2019. The final Blue Spring and Blue Spring Run report dated July 2014 includes an H1 target concentration and load. A final report was received by the EPA on December 6, 2019.

The submission included:

- Submittal letter
- Nutrient TMDL for Blue Spring and Blue Spring Run, and Documentation in Support of the Development of Site-Specific Numeric Interpretations of the Narrative Nutrient Criterion
- Documents related to Public Workshop
- Documents related to Public Hearing
- Documents related to Public Notice for Rulemaking and Rule Adoption
- Public Comments Received

This document explains how the submission meets the Clean Water Act (CWA) statutory requirements for the approval of WQS under section 303(c), and the EPA's implementing regulations in Title 40 of the Code of Federal Regulations (40 C.F.R.) part 131. The decision document memorializes the EPA's review and approval of the water quality standards, in accordance with 303(c); nothing herein should be construed to constitute a review or approval of a TMDL pursuant to 303(d).

WQS REVIEWER: Lydia Mayo, Environmental Scientist, mayo.lydia@epa.gov

EPA HIERARCHY 1 REVIEW DOCUMENT - WQS

Nutrient TMDL for Blue Spring and Blue Spring Run (Volusia County), WBIDs 28933 and 28933A and Documentation in Support of the Development of Site-Specific Numeric Interpretations of the Narrative Nutrient Criterion/Middle St. Johns River Basin

This document contains the EPA's review of the above-referenced H1. This review document includes WQS review guidelines that state or summarize currently effective statutory and regulatory requirements applicable to this approval action. Review guidelines are not themselves regulations. Any differences between review guidelines and the EPA's implementing regulations should be resolved in favor of the regulations themselves. The italicized sections of this document

describe the EPA's statutory and regulatory requirements for approvable H1s. The sections in regular type reflect the EPA's analysis of the state's compliance with these requirements.

I. WQS Decision – Supporting Rationale

Section 303(c) of the CWA and the EPA's implementing regulations at 40 CFR section 131 describe the statutory and regulatory requirements for approvable WQS. Set out below are the requirements for WQS submissions, under the CWA and the regulations. The information identified below is necessary for the EPA to determine if a submitted WQS meets the requirements of the CWA and, therefore, may be approved by the EPA.

1. Use Designations

Section 131.10(a) provides that each state must specify appropriate water uses to be achieved and protected. The classification of the waters of the state must take into consideration the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation. In no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the United States.

Assessment: Blue Spring and Blue Spring Run are classified as Class III Freshwater (fish consumption; recreation; and propagation and maintenance of a healthy, well-balanced population of fish and wildlife).

2. Protection of Downstream Uses

Section 131.10(b) provides that in designating uses of a waterbody and the appropriate criteria for those uses, the state shall take into consideration the WQS of downstream waters and shall ensure that its WQS provide for the attainment and maintenance of the WQS of downstream waters.

Rule 62-302.531(4) of the Florida Administrative Code (F.A.C.) requires that downstream uses be protected. Blue Spring and Blue Spring Run were listed as impaired for nutrients because of elevated concentrations of nitrate and corresponding imbalance of flora and fauna downstream consisting of mainly algal mats.

When the target nutrient concentrations for the Spring and Spring Run are achieved, it is expected that there will no longer be an imbalance of flora and that algal coverage and other indicators will return to levels that support the overall biological health of the system. Since the source of elevated nutrients in this system is predominately from spring flow, decreasing the concentration from the spring will also reduce nutrients in the spring and downstream segment of the spring run. The proposed nitrate targets have been set to protect the spring, spring run and the receiving waterbody for the springs, which is the St. Johns River. Blue Spring and Blue Spring Run flow approximately 0.4 miles downstream into the St. Johns River (WBID 2893B Freshwater Class III). This portion of the St. Johns River is not currently listed as verified impaired for any pollutants and therefore the reductions in nitrate loads prescribed in this TMDL will assist in the continued maintenance of water quality in downstream waters.

Assessment: The H1 is providing use protection for the downstream waters.

3. Water Quality Criteria

Section 131.11(a) provides that states must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use.

Blue Spring and Blue Spring Run have been on the state of Florida's Verified List as impaired for nutrients since 2009 because of consistently elevated concentrations of nitrate in addition to the corresponding evidence of an imbalance of flora and fauna downstream consisting mainly of algal mats. Additional information documented by the FDEP showed impaired biological health of the spring run between October 2000 and May 2007. A high percentage of diatoms and some blue-green algae were documented, which usually indicate nutrient over-enrichment. Macroinvertebrate habitat deficiency was documented to contribute to the stream health score of "impaired" in many assessments. Additional biological sampling results in 2007 and 2008 noted that while the dominant algal group was Bacillariophyta (diatoms), filamentous algae dominated the periphyton community and were in greater abundance in the upper and middle portions of the spring run, contributing to a poor-quality macroinvertebrate community. Photographs from around 1997 and from 2009 – 2011 document imbalance of flora and fauna and excessive algal growth at the spring and in the spring run.

After analyzing relationships between rainfall and spring discharge and observing its influence on monthly variability on spring flows and nutrient concentrations, the FDEP determined that a monthly average target of 0.35 mg/L nitrate would be additionally protective and appropriate for this spring and run to protect during high and low flow changes of the aquifer, observed rainfall influences, and fluctuating seasonal nutrient concentrations (data available between January 2001 and May 2013). The target selected by the FDEP for the nitrate criterion is based on the nutrient criterion in Rule 62-302.531, F.A.C., with an altered time frame because of the observed monthly variations. The spring vent criterion is usually expressed as an annual geometric mean, not to be exceeded more than once in any three-year period. The nitrate concentration is the same value as the NNC because there is no information that identified other levels of detrimental algal growth and/or nitrate levels as more appropriate or protective than the criterion. The nitrate TMDL target established as the NNC was based primarily on multiple lines of evidence, including relationships between long-term average nitrate concentrations and periphyton cell density and biomass on the Suwannee River, ecosystem metabolism data from spring run streams in the St. Johns River, and the FDEP's periphyton bioassessment data. The FDEP established other nitrate TMDLs for spring systems as monthly averages to provide a margin of safety because maintaining lower monthly average nitrate concentrations should ensure average nitrate concentrations during the rest of the year are also lower.

Assessment: The Blue Spring and Blue Spring Run nitrate criteria is 0.35 mg/L, expressed as a monthly average concentration. It is understood that this value is not to be exceeded on a monthly basis. The resulting water quality will protect the designated uses for this waterbody. Any other criteria applicable to this waterbody remain in effect, including the nutrient criteria for parameters other than nitrate set out in subsection 62-302.531(2), F.A.C.

4. Scientific Defensibility

Section 131.11(b) provides that, in establishing criteria, states should establish numerical values based on 304(a) guidance, 304(a) guidance modified to reflect site-specific conditions, or other scientifically defensible methods.

Blue Spring (WBID 28933) and Blue Spring Run (WBID 28933A) were listed as impaired in 2009 using information during the period from January 1, 2001 through June 30, 2008. The TMDL document based the nitrate targets on site-specific evidence of flora and fauna imbalance, which included algal smothering, algal mats and other biological assessment information. The site-specific criteria of 0.35 mg/L nitrate for Blue Spring and Blue Spring Run are expressed as a monthly average, not to be exceeded. The monthly average is considered an appropriate time frame because of the observed flow and seasonal changes. An additional conservative measure was used when determining the required percent reduction to achieve the water quality target. The highest monthly average nitrate concentration over the period of record was used instead of long-term annual means or averages, which resulted in additional improvements in water quality.

Assessment: The EPA determined that the selection of the nitrate water quality value of 0.35 mg/L for Blue Spring (WBID 28933) and Blue Spring Run (WBID 28933A) is appropriate. This value is based upon all data that were available. A monthly average is considered appropriate for this target, and it is based on the criterion in Rule 62-302.531, F.A.C., with an altered time frame because of the observed monthly variability. The nitrate concentration is the same value as the NNC because there is no information that identified other levels of detrimental algal growth and/or nitrate levels as more appropriate or protective than the criterion.

5. Public Participation

Section 131.20(b) provides that states shall hold a public hearing when revising WQS, in accordance with provisions of state law and the EPA's public participation regulation (40 CFR part 25). The proposed WQS revision and supporting analyses shall be made available to the public prior to the hearing.

The FDEP published a Notice of Rule Development of Rulemaking on October 9, 2013 to initiate TMDL development for impaired waters in the Middle St. Johns River Basin. A rule development public workshop for the TMDL was held on October 31, 2013 in Deltona, Florida, to obtain comments on the water quality criterion contained in the draft nutrient TMDLs for Blue Spring and Blue Spring Run. The workshop notice indicated that the nutrient TMDLs, if adopted, constitute site-specific numeric interpretations of the narrative criterion set forth in paragraph 62-302.530(48)(b), F.A.C., that would replace the otherwise applicable NNC in subsection 62-302.531(2), F.A.C., for these specified waters. The FDEP also held a public hearing on May 14, 2019 in Tallahassee, Florida.

Assessment: The FDEP has met the public participation requirements for this H1.

6. Certification by the State Attorney General

Section 131.6(e) requires that the state provide a certification by the state Attorney General or other appropriate legal authority within the state that the WQS were duly adopted pursuant to state law.

A letter from the FDEP General Counsel, Justin G. Wolfe, dated December 4, 2019, certified that the Blue Spring and Blue Spring Run TMDL were duly adopted as WQS pursuant to state law.

Assessment: The FDEP has met the requirement for Attorney General certification for this H1.

7. Endangered Species Act Section 7 Consultation

Section 7(a)(2) of the Endangered Species Act (ESA) requires federal agencies, in consultation with the Services, to ensure that their actions are not likely to jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of designated critical habitat of such species.

The U.S. Fish and Wildlife Service (USFWS) provided concurrence with the EPA's programmatic consultation on site-specific nutrient criteria for the FDEP on July 21, 2015 for any site-specific nutrient criteria that are more stringent than the existing default nutrient criteria in place in the state of Florida for the waterbody. Because the site-specific criterion in this report for Blue Spring is considered more stringent than the default criterion, an additional ESA section 7 consultation for this standards action is not required.

The addition of the nitrate criterion for Blue Spring Run is an additional level of protection for the spring and run, in addition to the default NNC that remains effective for the waterbodies. The EPA initiated informal consultation with USFWS on the 0.35 mg/L nitrate, expressed as monthly average, not to be exceeded value for Blue Spring Run on December 6, 2019 and received a letter of concurrence on January 28, 2020.

Assessment: The EPA has met the ESA requirements for this action.

II. Conclusion

The EPA Region 4 Water Division Director is **APPROVING** the H1 NNC addressed by this decision document in accordance with section 303(c) of the CWA, as consistent with the CWA and 40 CFR part 131.

The H1 NNC for Blue Spring presented in this decision document will constitute the site-specific numeric interpretation of the narrative nutrient criterion set forth in paragraph 62-302.530(48)(b), F.A.C., that will replace the otherwise applicable numeric criteria for nitrate-nitrite in subsection 62-302.531(2)(b) for this particular water, pursuant to paragraph 62-302.531(2)(a)1.b., F.A.C. The H1 NNC presented in this decision document will also constitute the site-specific numeric interpretation of the narrative nutrient criterion set forth in paragraph 62-302.530(48)(b), F.A.C., which will supplement the otherwise applicable numeric criteria for nitrogen, phosphorus, and chlorophyll *a* in sub section 62-302.531(2) for the Blue Spring Run, pursuant to paragraph 62-302.531(2)(c), F.A.C. Based on the chemical, physical, and biological data presented in the development of the H1 NNC outlined above, the EPA concludes that the revised NNC for Blue Spring and Blue Spring Run provide for and protect healthy, well-balanced, biological communities in the waters to which the NNC apply and are consistent with the CWA and its implementing regulations at 40 C.F.R. § 131.11.

Therefore, the revised nutrient criteria for Blue Spring and Blue Spring Run is 0.35 mg/L nitrate, expressed as monthly average, not to be exceeded. All other criteria applicable to this waterbody remain in effect, including other applicable criteria at 62-302.531(2)(c), F.A.C. The requirements of paragrapb 62-302.530(48)(a), F.A.C. also remain applicable.

The EPA's decision document memorializes the EPA's review and approval of the water quality standard, in accordance with 303(c); nothing herein should be construed to constitute a review or approval of a TMDL pursuant to 303(d).